



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,655	09/25/2003	John Dunklee	KLR:1016.0085	8221
7590	07/13/2004			
Chernoff, Vilhauer, McClung & Stenzel, LLP 1600 ODS Tower 601 SW Second Avenue Portland, OR 97204-3157			EXAMINER CHAN, EMILY Y	
			ART UNIT 2829	PAPER NUMBER

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/672,655	Applicant(s) DUNKLEE ET AL.	
	Examiner Emily Y Chan	Art Unit 2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9-25-04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9-25-03 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected because it contains less than 50 words.

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claims

The recitations “the same potential” In claim 1, “and “said first probe” in claim 9, lack of antecedent basis. In claim 9, how to measure the “at least 50% of the distance between the first probe and the test instrumentation is unclear. The examiner assumes just some wire connection between the probe and the test instrumentation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-2, 6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by applicant admitted prior art (APA) on fig. 1.

Regarding to claim 1, applicant admitted prior art (APA) on Fig. 1 discloses a probe assembly for probing an electrical device, said probe assembly comprising:

(a) a chuck (20) having a first conductive member (top layer of the chuck 20) suitable for supporting an electrical device (18); and

(b) a second conductive member (probe needles 16 and suspended guard member 24) spaced apart from said chuck (20), wherein said electrical device (18) is spaced between said first conductive member (top layer of the chuck 20) and said second conductive member (16, and 24). Applicant admitted prior art (APA) on fig. 1 also disclose that the first conductive member (top layer of the chuck 20) is electrically interconnected to the second conductive member (16, 24) (see the loop connection among the top layer of the chuck 20, the first transmission line 22, the second

transmission line 26 and the suspended guard member 24). Applicant admitted prior art (APA) on fig. 1 further disclose that the first conductive member (top layer of the chuck 20) and the second conductive member (16, 24) are electrically connected to the same potential (a common signal source at a test instrumentation).

2. Regarding to claim 2, applicant admitted prior art (APA) on Fig. 1 discloses that the second conductive member (16, 24) is electrically interconnected to a test signal (see lines 15, page 3 of the specification) of the electrical device (18).

3. Regarding to claim 6, applicant admitted prior art (APA) Fig. 1 discloses that the second conductive member (16,24) is free from being supported by the chuck 20 (see Fig. 1).

4. Regarding to claim 8, applicant admitted prior art (APA) Fig. 1 discloses that the first conductive member (top layer of the chuck 20) and its second conductive member (16, 24) are electrically interconnected to a first probe (14).

Claim Rejections - 35 USC § 103

Claims 3-5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant admitted prior art (APA) as applied to claim 1 above, and further in view of Yassine ('997).

5. Regarding to claims 3-4, applicant admitted prior art (APA) on Fig. 1 discloses the second conductive member (24) is spaced further distant from the electrical device (18) than said the first conductive member (top layer of the chuck 20), but fail to disclose that

the first conductive member comprises a first plate and the second conductive member comprises a second plate.

However, Yassine ('997) disclose a wafer shielding chamber for probe station (see Fig. 3) comprising a chuck 30 for supporting a wafer 58 under test. Yassine ('997) exclusively discloses a first conductive member comprising a first plate (upper surface 56 of the chuck 30)(see Col. 6, line 20) and a second conductive member (60) comprises a second plate (a flat metal plate), which is vertically spaced apart from the first conductive member (see Col. 6, lines 31 and 49-51). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to add the first and second plates of Yassine ('997) into applicant admitted prior art (APA)'s probe assembly for the expected benefit of eliminating air currents so that more accurate noise measurements may be taken for reliability testing as disclosed Yassine ('997) (see Col. 1, lines 11-12).

6. Regarding to claim 5, applicant admitted prior art (APA) on Fig. 1 does not disclose that the second conductive member (16,24) is electrically interconnected to the first conductive member (top layer of the chuck 20) completely within an environmental chamber.

However, Yassine ('997) disclose a wafer shielding chamber for probe station (see Fig. 3) and exclusively teach that a second conductive member (60) is electrically interconnected to a first conductive member (upper surface 56 of the chuck 30) completely within an environmental chamber (a small volume chamber 68) (see Col. 6, lines 30-32 and 45-48). It would have been obvious to one of ordinary skill in the art at

the time the claimed invention was made to apply the feature of having the first and second conductive members within an environmental chamber as taught by Yassine ('997) into applicant admitted prior art (APA)'s probe assembly for the expected benefit of eliminating air currents so that more accurate noise measurements may be taken for reliability testing as disclosed Yassine ('997) (see Col. 1, lines 11-12).

7. Regarding to claim 10, applicant admitted prior art (APA) Fig. 1 does not disclose that a detachable substantial closed loop member engageable with the first conductive member and the second conductive member.

However, Yassine ('997) disclose a wafer shielding chamber for probe station and exclusively teach a detachable substantial closed loop member (a free-floating lid 60) engageable with the first conductive member (upper surface 64 of a space ring) and the second conductive member (lower surface 66 of the lid 60) (see abstract, lines 7-10), wherein the loop member (60) includes a flexible member (anti-friction such as Teflon) interconnecting the first conductive member (64) and the second conductive member (66) (see Col. 7, lines 5-6). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to add the loop member including flexible member such as Teflon of Yassine ('997) into applicant admitted prior art (APA)'s probe assembly for the expected benefit of minimizing air currents about the wafer and enhancing sliding movement between the first conductive member and the second conductive member (see abstract and Col. 7, lines 6-7).

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (APA) Fig. 1 as applied to claim1 above, and further in view of Navratil et al ('861).

Applicant admitted prior art (APA) Fig. 1 do not disclose a first probe and a second probe.

Navratil et al ('861) disclose a probe station (see Fig. 7) and exclusively teach that a first conductive member (top layer of chuck 202) is electrically interconnected to a first probe (electrical probe 210) and a second conductive member (206) is electrically interconnected to a second probe (optical probe 216) (see page 3, paragraph 0029). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to add the second probe of Navratil et al ('861) into applicant admitted prior art (APA)'s probe assembly for the purpose of facilitating accurate alignment of electrical and optical probes in probe station assembly as disclosed by Navratil et al ('861) (see page 2, paragraph 0011).

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (APA) Fig. 1 as applied to claim1 above, and further in view of Streib et al ('383).

Applicant admitted prior art (APA) on Fig. 1 do not disclose the probe (14) is electrically interconnected to test instrumentation.

Streib et al ('383) disclose a probe station using multiple probes (see Fig. 1) and particularly teach a first probe (78) is electrically interconnected to a test instrumentation (48) (Col. 3, line 66) using coaxial cables (66,67) over at least 50% of the distance

Art Unit: 2829

between its first probe (78) and test instrumentation (48). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply coaxial cables for connecting the probe and test instrumentation as taught by Streib et al ('383) into applicant admitted prior art (APA)'s probe assembly for the expected benefit of simplifying connection of guarding the probe holders and chucks supporting the silicon wafer as disclosed by Streib et al ('383) 9see Col. 1, line 19-21).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hollman et al ('141) disclose a wafer probe station and teach first and second conductive members and a triaxial connector for connecting the wafer probe station to an external test instrumentation (see Col. 5, lines 55-56).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y Chan whose telephone number is 5712721956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cuneo Kammie can be reached on 5712721957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2829

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ec

David A. Zarnke
David A. Zarnke
Primary Examiner
6/26/04